AMENDMENTS TO THE CLAIMS

1. (PREVIOUSLY PRESENTED) A friction disk for a brake assembly comprising:

an annular structural core having at least one sinusoidally-shaped mounting surface; and

at least one frictional lining disk having an annular and sinusoidally-shaped mounting surface and a relatively, flat wear surface on an opposite side of said at least one frictional lining disk from said sinusoidally-shaped mounting surface of said at least one frictional lining disk, said mounting surface of each frictional lining disk matingly engaging said mounting surface of said structural core.

2. (ORIGINAL) The friction disk according to claim 1, wherein said annular structural core is formed from strength-optimized carbon-carbon composite.

3. (ORIGINAL) The friction disk according to claim 1, further comprising drive lugs on an inner diameter of said structural core for mounting to a stator of the brake assembly.

4. (ORIGINAL) The friction disk according to claim 1, further comprising drive lugs on an outer diameter of said structural core for mounting to a rotor of the brake assembly.

5. (PREVIOUSLY PRESENTED) The friction disk according to claim 1, wherein each friction lining disk is formed from friction optimized carbon-carbon composite.

6. (PREVIOUSLY PRESENTED) The friction disk according to claim 1, further comprising at least one mechanical fastener securing each friction lining disk to said structural core.

7. (PREVIOUSLY PRESENTED) The friction disk according to claim 2, wherein each friction lining disk is formed from friction-optimized carbon-carbon composite.

8. (ORIGINAL) The friction disk according to claim 7, wherein said friction disk is a stator disk, rotor disk or pressure plate.

9. (ORIGINAL) The friction disk according to claim 2, wherein each wear surface includes a thermal barrier coating.

Claims 10-17 (CANCELLED)

18. (PREVIOUSLY PRESENTED) A friction disk for a brake assembly comprising:

an annular structural core having a first sinusoidally-shaped mounting surface and a second sinusoidally-shaped mounting surface;

a first frictional lining disk having an annular and sinusoidally-shaped mounting surface and a relatively, flat wear surface on an opposite side of said first frictional lining disk from said sinusoidally-shaped mounting surface of said first frictional lining disk, said mounting surface of said first frictional lining disk matingly and directly engaging said first mounting surface of said structural core; and

a second frictional lining disk having an annular and sinusoidally-shaped mounting surface and a relatively, flat wear surface on an opposite side of said second frictional lining disk from said sinusoidally-shaped mounting surface of said second frictional lining disk, said mounting surface of said second frictional lining disk matingly and directly engaging said second mounting surface of said structural core.

19. (PREVIOUSLY PRESENTED) The friction disk according to claim 18, wherein said annular structural core is formed from strength-optimized carbon-carbon composite.

20. (PREVIOUSLY PRESENTED) The friction disk according to claim 18, further comprising drive lugs on at least one of an inner diameter of said structural core for mounting to a stator of the brake assembly and an outer diameter of said structural core for mounting to a rotor of the brake assembly.

21. (NEW) A brake assembly comprising:

a torque tube for attaching to an axle of a wheel;

a disk stack formed by an alternatively arranged plurality of stator and rotor disks; and

a housing containing pressure piston devices for compressing the disk stack of stator and rotor discs, wherein at least one disk within said disk stack includes a friction disk, said friction disk having:

an annular structural core having a first sinusoidally-shaped mounting surface and a second sinusoidally-shaped mounting surface;

a first frictional lining disk having an annular and sinusoidally-shaped mounting surface and a relatively, flat wear surface on an opposite side of said first frictional lining disk from said sinusoidally-

shaped mounting surface of said first frictional lining disk, said mounting surface of said first frictional lining disk matingly and directly engaging said first mounting surface of said structural core; and

a second frictional lining disk having an annular and sinusoidally-shaped mounting surface and a relatively, flat wear surface on an opposite side of said second frictional lining disk from said sinusoidally-shaped mounting surface of said second frictional lining disk, said mounting surface of said second frictional lining disk matingly and directly engaging said second mounting surface of said structural core.

22. (NEW) The brake assembly according to claim 21, wherein said annular structural core is formed from strength-optimized carbon-carbon composite.

23. (NEW) The brake assembly according to claim 21, further comprising drive lugs on at least one of an inner diameter of said structural core for mounting to a stator of the brake assembly and an outer diameter of said structural core for mounting to a rotor of the brake assembly.

24. (NEW) A disk stack for a brake assembly, wherein the disk stack is formed by an alternatively arranged plurality of stator and rotor disks, said disk stack comprising:

at least one friction disk within said disk stack, said friction disk having:

an annular structural core having a first sinusoidally-shaped mounting surface and a second sinusoidally-shaped mounting surface;

a first frictional lining disk having an annular and sinusoidally-shaped mounting surface and a relatively, flat wear surface on an opposite side of said first frictional lining disk from said sinusoidally-shaped mounting surface of said first frictional lining disk, said mounting surface of said first frictional lining disk matingly and directly engaging said first mounting surface of said structural core; and

a second frictional lining disk having an annular and sinusoidally-shaped mounting surface and a relatively, flat wear surface on an opposite side of said second frictional lining disk from said sinusoidally-shaped mounting surface of said second frictional lining disk, said mounting surface of said second frictional lining disk matingly and directly engaging said second mounting surface of said structural core.